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Change in the Urban Water Management Regime – Successful Technology and Institutional Pathways

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Abstract

We refer to a study of transition in the urban management regime of two cities (Melbourne, AU and Copenhagen, DK) identifying current drivers and barriers and pointing to successful pathways. A range of alternative technologies to the current urban water management regime are developed to meet global challenges such as urban flooding, resource depletion, urbanization and climate change. An example is Water Sensitive Urban Design (WSUD) which is implemented as an alternative to the current stormwater management regime. WSUD covers a number of technologies with elements of: detention, infiltration or harvesting, evaporation, transport or treatment of stormwater. The implementation of such alternative technologies suggests an incipient transition in the urban water management regime.

Technology pathways of WSUD are very similar in Melbourne and Copenhagen. However, differences in context results in different local drivers and applications of the technologies. Thus there is a significant potential for knowledge transfer of mechanisms for institutional change between the two cities. Barriers for a full-scale implementation are identified in both cities and currently, the main barriers for transition are fundamental differences of policy makers' and practitioners' underpinning understanding of the technology and its use; like purpose, applications, and combinations of the technology. The study indicates that successful institutional pathways include: 1) creating incentives for implementation with a linking of the technologies to a main societal problem; 2) creating supportive policies across several governmental levels; and 3) successful full-scale demonstration projects and knowledge building and sharing activities that will build a common vision for the technologies.

Developing from this case study and other literature, we suggest a hypothesis for further discussion: Barriers for transition in urban water management are in the earlier phases of transition mainly connected to technology, while in the later phases institutional barriers arises with a lack of supporting institutions. These missing institutions are both cultural [shared beliefs, logic and meanings], normative [specifying norms, rules and standards] and regulative [such as rules, laws and sanctions]. We therefore suggest that successful pathways for further change in the urban water management regime also involve institutional change, starting with cultural change.

We propose analyzing the current system of alternative technologies and surrounding actors and institutions to clarify specific actions to facilitate further development.